



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105**

SENT VIA EMAIL AS PDF

June 11, 2021

Sean-Ryan McCray
Remedial Project Manager
Department of the Navy
Base Realignment and Closure Program Management Office West
33000 Nixie Way, Building 50
San Diego, CA 92147

Subject: EPA Comments on the Draft Parcel C Removal Site Evaluation Work Plan
Hunters Point Naval Shipyard Superfund Site

Dear Mr. McCray:

Please see enclosed EPA comments on the "Draft Parcel C Removal Site Evaluation Work Plan" for the Hunters Point Naval Shipyard Superfund Site in San Francisco, California. The draft Work Plan is dated March 2021.

Because we have not yet received responses to our March 2021 comments on the draft Parcel B Removal Site Evaluation Work Plan, many of our comments are the same comments we made on the Parcel B Work Plan.

Please contact me at 415-972-3181 or praskins.wayne@epa.gov with any questions.

Sincerely,

A handwritten signature in black ink, which appears to read "Wayne Praskins", is positioned above the typed name.

Wayne Praskins
EPA Project Manager

Enclosure

cc: Nina Bacey, California Department of Toxic Substances Control
Terry Han, California Department of Public Health, EMB
Nathan King, San Francisco Regional Water Quality Control Board
Amy Brownell, San Francisco Department of Public Health

**EPA Comments on the Draft Parcel C Removal Site Evaluation Work Plan
Hunters Point Naval Shipyard Superfund Site
Draft Work Plan dated March 2021; EPA Comments June 11, 2021**

1. **Executive Summary:** Please make any needed revisions to this section to reflect changes made elsewhere in the Draft Parcel C Removal Site Evaluation Work Plan, Hunters Point Naval Shipyard, San Francisco, California (Work Plan).
2. **Section 1, Introduction.** Please provide a brief explanation of the relationship between the planned investigation and recent investigation work in and near buildings 204, 205, 207, 208, 211, and 253. The latter work is described in the June 2020 Removal Action Completion Summary Report for the Radiological Characterization Survey of Sanitary Sewers and Storm Drains, Parcel C Historic District, and the April 2019 Work Plan for Parcel C Buildings 211 and 253 Radiological Remediation. In particular, please address the interior building surfaces of buildings 211 and 253, which are included in the April 2019 Work Plan and the planned investigation.
3. **Table 2-1, Conceptual Site Model, Page 2-3; Table 4-1, Building Radionuclides of Concern, Page 4-2; and Appendix A, Sampling and Analysis Plan, Table 10-1, Conceptual Site Model, Page 37:** The Radionuclides of Concern (ROCs) for Building 224 are strontium-90 (Sr-90), cesium-137 (Cs-137), and plutonium-239 (Pu-239); and for Building 241 are potassium-40 (K-40) and thorium-232 (Th-232). We understand that the Navy's Radiological Affairs Support Office (RASO) has stated that radium-226 (Ra-226) is a ROC at all radiologically impacted sites. Please add Ra-226 as a ROC for Buildings 224 and 241 or explain why this is unnecessary.
4. **Section 3.1, Data Quality Objectives, Page 3-1:** Step 3 (Identify Inputs to the Objective) describes the planned analysis of surface soil and subsurface soil samples "for the applicable ROCs," but the Final July 2010 Work Plan for the basin-wide removal of storm drains and sanitary sewers includes a requirement that soil excavated from an Installation Restoration Program site be sampled for chemicals of concern before use as trench backfill. Please supplement the planned analyses to demonstrate that soil which may be used as backfill meets the backfill acceptance criteria presented in Worksheets #15.5 through #15.14 in Appendix A, or explain why the additional analyses are not appropriate. This comment also applies to other subsections in Section 3 and Appendix A.
5. **Section 3.1, Data Quality Objectives, Page 3-1:** Step 4 includes references to Table 3-1 and Figure 3-1 which list or show the 23 Trench Units (TUs) proposed for excavation in Phase 1 of the planned sampling effort. We recommend, that as part of Phase 1, TUs 202, 239, 316, 318, 319, and 329 be replaced with TUs 194, 198, 205, 210, 315, and 333. Our rationale is as follows

TU 194 –Review of graphical data identified anomalies/unusual trends in soil sample data; Ac-228, Bi-214, and K-40 concentrations of the FSS were significantly lower than

the initial systematic samples; backfill included excavated soil; TU over-excavated 6 times;

TU 198 – Ac-228 and Bi-214 concentrations of the FSSs and final set of biased samples were significantly lower than the Ac-228 and Bi-214 concentrations of previously collected samples; K-40 concentrations of the final systematic samples were significantly higher than K-40 concentrations of other samples collected at TU198; backfill included excavated soil; TU over-excavated 4 times;

TU 205 –extremely low variability Bi-214 and K-40 data, FSS results reported a lower average activity than the rest of Parcel C, inconsistent gamma statics, evidence of multiple populations and possible substitution of FSS samples 17 and 18;

TU 210 – Review of graphical data shows anomalies or unusual trends in the soil sample data; concentrations of Ra-226 progeny (Bi-214 and Pb-214) and Th-232 progeny (Pb-212) were statistically different from all other TUs in Parcel C; FSS results were compared with FSS of adjacent TUs and inconsistencies observed; backfill included excavated soil; TU over-excavated 2 times;

TU 315 –low variability Bi-214 and K-40 data, inconsistent gamma statics, evidence of multiple populations, and probable substitution of a sample (09);

TU 333 –failure to collect a full set of 18 FSS samples after remediation, lack of required gamma static measurements; evidence of multiple populations; K-S test failed for multiple radionuclides.

6. **Section 3.1, Data Quality Objectives, Page 3-1:** Step 5 (Develop Decision Rules) discusses a point-by-point comparison with remediation goals (RGs) at agreed upon statistical confidence levels. The phrase suggests something other than a direct comparison of each sample result to the relevant RG. Please clarify the meaning of the phrase “agreed upon statistical confidence levels” or delete the phrase. This phrase is also used in the Executive Summary, Section 4.1, Section 5.2, and Appendix A.
7. **Section 3.1, Data Quality Objectives, Page 3-2:** Step 6 (Specify the Performance Criteria) states, “If the concentrations of radionuclides in the uranium natural decay series are consistent with the assumption of secular equilibrium, then the ²²⁶Ra concentration is NORM, and site conditions comply with the Parcel C ROD [Record of Decision] RAO [Remedial Action Objective].” Please explain how results for radionuclides not in the uranium-238 (^{U-238}) decay series will be used (e.g., Th-232, Th-228, U-235). This comment also applies to Section 5 and Worksheet #11 in Appendix A.
8. **Figure 3-2, Performance Criteria for Demonstrating Compliance with the Parcel C ROD – Soil:** The bottom triangle in Figure 3-2 says, “Is any ²²⁶Ra Concentration > ²³⁸U + RG?” Please explain the basis for this comparison. Is this part of an evaluation of secular equilibrium? If, so, why single out the comparison of Ra-226 and U-238, leaving out other radionuclides in the decay series? And why use the RG as a threshold difference between the two concentrations?
9. **Section 3.3.1, Investigation Levels, Pages 3-3 and 3-4:** The text states that gamma static counts and spectral analysis results will be compared to background, and biased samples will be collected if locations with elevated activity are identified. It also describes plans to calculate gamma scan investigation levels (ILs) based on background

following mobilization. Please clarify what background areas or datasets are proposed, including whether the Navy proposes to make use the dataset used for Parcel G (i.e., the area near Building 809).

- 10. Section 3.4.1, Minimum Number of Samples, Page 3-6:** The text states, “The minimum number of samples per SU will be developed based on the variability observed in the RBA [reference background area] data. A retrospective power curve will be prepared to demonstrate that the number of samples from each SU was sufficient to meet the project objectives. If necessary, additional samples may be collected to comply with the project objectives.” Please revise the Work Plan to include the formula or reference to a MARSSIM section that illustrates the formula to be used to calculate the retrospective power curve.
- 11. Section 3.4.1, Number of Samples, Page 3-6:** The text states that a minimum of 18 systematic soil samples will be collected for each 152 cubic meters of soil in each trench unit (TU) or SU; however, as stated in Sampling and Analysis Plan (SAP) Worksheet #17 (Sampling and Survey Design and Rationale, page 88) of Appendix A, 25 samples should be collected initially. Please revise Section 3.4.1 to be consistent with SAP Worksheet #17.
- 12. Section 3.4.3, Radiological Background, Page 3-6:** The Work Plan states that “The RGs presented in Table 3-5 are incremental concentrations above background.” Except for the RG for Ra-226, this statement is incorrect. Please correct.
- 13. Section 3.4.3, Radiological Background, Page 3-6:** The Work Plan describes the collection of RBA samples and additional RBA measurements. Please clarify whether the collection of additional background data is planned and provide details about the planned use of the background data collected in 2019. This comment also applies to Section 1 (Introduction), Section 3.1 (Data Quality Objectives), and Section 5.5 (Comparison to Background).
- 14. Section 3.4.4, Phase 1 Trench Unit Design, Page 3-7:** The text states that the thickness of soil placed on radiological screening yard (RSY) pads will not exceed 6 inches to control the measurement geometry, but other parts of the Work Plan, including Section 3.6.3.2 and Worksheet #14 in Appendix A, state that the soil column thickness will not exceed 9 inches. Please reconcile these statements and confirm, if correct, that the maximum volume of each batch of excavated material will be 152 cubic meters regardless of the area or thickness of soil placed on a RSY Pad.
- 15. Section 3.4, Radiological Investigation Design, Pages 3-4 to 3-10:** The Work Plan requires excavation of soil in the Phase 2 TUs if contamination is identified in any of the Phase 1 TUs. The workplan should indicate the need to avoid undue mixing of soil excavated from the Phase 1 TUs to minimize dilution of any contamination. That includes practices such as sieving to dry wet soils.
- 16. Section 3.4.5, Phase 2 Trench Unit Design, Page 3-9; Table 3-2, Phase 2 Soil Trench Units; and, Figure 3-4, Example Phase 2 – Trench/Survey Unit and Sample**

Locations: It would be helpful if the text, table, and figure were more easily comparable (i.e., if they all used the same units of length (feet or meters) and the same nomenclature (e.g., sidewall samples or buffer samples).

In addition, we are unable to reconcile “Number of Systematic Samples from Sidewalls and Bottom” listed in Table 3-2 and the number of borings shown on Figure 3-4. The figure shows six borings inside the TU and six borings in the TU buffer for TU333, which suggests 12 samples inside the TU (2 samples per boring) and 24 samples in the TU buffer (one bottom sample from each boring in the TU and three samples from the six borings in the buffer). Table 3-2 specifies 36 samples from Fill Material and 91 samples from Sidewalls and Bottom. The text discusses collecting 54 samples “per previous TU boundary.” Please ensure that the text, Table 3-2, and Figure 3-4 are consistent.

17. Section 3.5.1.1, RS-700 Gamma Scan Data Analysis, Page 3-11: This section discusses how elevated radioactivity will be identified using the RS-700 system.

- a. The text states that local Z-scores are calculated using a moving average to identify elevated count rates where the background is variable, for SUs that meet this criterion, and semi-local Z-scores are calculated using the global average but with a moving average for the standard deviation to identify smaller areas of elevated count rates that may not be otherwise identified by the initial Z-score review. Please clarify how the moving average and global average are calculated and the criteria to be used to determine whether a SU has a variable background.
- b. The text states that any location with four or more regions of interest (ROIs) having a Z-Score, local Z-score, or semi-local Z-score greater than 3 ($Z > 3$) is marked for follow-up. Please explain the basis for only identifying locations with four or more ROIs having a Z-score greater than 3 for follow-up.

18. Section 3.6, Radiological Investigation Implementation, Pages 3-15 to 3-26: Please add a statement that, upon request, soil will be provided to the regulatory agencies for split sample analysis, and in this section or other appropriate location in the Work Plan, briefly describe the proposed procedure for generation of a split sample.

Our understanding is that the Navy contractor carried out the following steps during the Parcel G retesting:

- a. placed soil to be sampled on a new, disposable sheet of plastic using a disposable scoop;
- b. used the scoop to homogenize the soil;
- c. alternately filled the primary Navy sample container and the split sample bag provided by the EPA representative;
- d. pressed air from the split sample bag and closed the zipper-lock to seal bag;
- e. used a disposable towel to wipe any dust from the outside of the bag;
- f. collected a swipe sample from the outside of the bag and analyzed the swipe to check that the sample meets release limits (less than 20 dpm/cm² alpha and less than 1,000 dpm/cm² beta); and

g. signed a COC form provided by the EPA representative to relinquish the sample.

19. Section 3.6.2.1, Locating and Confirming Boundaries, Page 3-16: The text describes two sources of information which will be used to identify boundaries and depths of the former TUs and SUs (Tetra Tech EC [TtEC] reports and field observations).

- a. Please clarify whether the boundaries will account for remediation activities by TtEC which resulted in targeted excavation of soils with elevated radionuclide concentrations.
- b. Please clarify whether the boundaries will reflect slumping/sloughing of sidewalls which occurred in some TUs during the period the TtEC TU excavations were open.
- c. Please comment on the uncertainty associated with the methodology used to locate the previous excavation limits, particularly the horizontal limits, and the level of confidence that the uncertainty is less than 6 inches, the planned extent of over excavation of Phase 1 TUs.
- d. We recommend that the Navy make and document field observations to assess whether the TU boundaries were accurately located (e.g., whether differences in soil texture or appearance were observed between soils on either side of the marked TU boundaries).

20. Section 3.6.2.2, Site Preparation, Page 3-17: This section describes the removal of asphalt cover to expose target soils. Please revise the Work Plan to clarify whether clearing or grubbing and removal of the soil durable cover may be necessary at some TUs, and confirm that the soil cover will be removed before the gamma survey will be conducted. If grubbing will be required, please provide information on where clearing and grubbing and removal of the soil cover may be necessary, the management and disposal of any wastes generated, and restoration of the durable cover.

21. Section 3.6.2.2, Site Preparation, Page 3-17: The text states that “A minimum of two feet from the closest observed utility will be maintained to prevent accidental exposure to the utility, based on the utility hazard or importance.” Please clarify whether there may be exceptions to this requirement, as we understand has been the case in some Parcel G TUs.

22. Section 3.6.3.2, General Process, Page 3-19: This section states that scanning will be performed by scanning straight lines at a rate not to exceed 0.25 meters per second (m/s) with a consistent detector distance from the soil surface (approximately four inches above the surface), and that each traverse of the RSY will be offset from the next detector path based on the instrument’s detector size. Please reference a procedure or provide an explanation for how the consistency of the speed of movement and distance of the detector from the surface will be maintained and how the detector paths will be identified to ensure no gaps in gamma scan coverage will occur during the scanning.

- 23. Section 3.6.3.2, General Process, Page 3-20:** The text states that “A biased soil sample will be collected from the approximate location of the highest elevated gamma scan measurement.” In contrast, Section 3.3.1 states that “If the gamma spectroscopy detector system static measurements identify locations with elevated activity, biased samples will be collected.” Please clarify whether biased samples will be collected based on gamma scan or static measurements (or both). This comment also applies to Section 3.6.5.
- 24. Section 3.6.5.1, Surface Soil Sample Collection, Page 3-24:** The text states that soil will be transferred directly into a clean stainless-steel bowl for mixing. Please confirm that the use of a stainless-steel bowl is required or revise.
- 25. Section 3.6.5.1, Surface Soil Sample Collection, Page 3-24:** The text states that 200 grams of soil is required, in contrast to the Sampling and Analysis Plan (Worksheet #19) which specifies ~ 1,000 grams for radiological analyses. Please clarify or correct.
- 26. Section 3.7, Radiological Laboratory Analysis, Page 3-27:** The last bullet point of Section 3.7 states, “At North Pier and Ship Berths 1, 2, 3, 4, and 5 where 239Pu is a ROC, at least 10 percent of randomly selected systematic samples will be analyzed by alpha spectroscopy for 239Pu.” Please provide a rationale for analyzing fewer than 100% of the samples from locations where Pu-239 is a ROC, or revise Section 3.7 to ensure all samples are analyzed for Pu-239.
- 27. Section 4, Building Investigation Design and Implementation:** Additional changes to this section may be needed to reflect the outcome of the ongoing evaluation of the protectiveness of the building remediation goals.
- 28. Section 4.1, Data Quality Objectives, Page 4-2:** Step 6 describes a comparison of each net alpha and net beta result to the corresponding RG. The proposed approach appears to be inconsistent with the 2006 Basewide Radiological Removal Action Memorandum and the September 2010 Record of Decision for Parcel C which do not indicate that the remediation goals are to be applied as an incremental concentration above background. This comment also applies to Section 5.4.
- 29. Tables 4-2 and 4-3, Page 4-3:** The tables include a footnote that states that the Th-232 RG is “to be applied considering the likelihood of 232Th in secular equilibrium with its progeny.” Please clarify the meaning of this statement. For buildings 211, 241, and 253, where Th-232 is an ROC, is the Navy proposing that compliance with RGs be determined by comparing gross alpha measurements to the listed RG of 36.5 dpm/100cm², or some other value?
- 30. Section 4.4.2, Radiological Background, Page 4-5:** We recommend that the plan require a comparison of results from the planned RBA (building 404) to offsite buildings of similar construction era and materials to confirm that the proposed RBA is not contaminated.
- 31. Section 4.4.1.2, Static Measurements, Page 4-5:** It is unclear why the RG plus background was used to calculate the relative shift as background is typically excluded

from this calculation. Similarly, for the lower boundary of the grey region (LBGR), half of the RG is typically used, or 0.5, rather than 1.0. Please provide a rationale for these values or revise.

32. Section 4.4.3, Survey Units, Page 4-6, and Figure 4.6, Building 241 Floor Plan: It is unclear why the building columns will not be surveyed. Please ensure that the building columns are surveyed or revise the text to explain why they will not be surveyed.

33. Section 4.5.8.1, Alpha-Beta Scan Rate, Page 4-13: This section states movement of large area detectors, such as the Ludlum Model 43-37, will be motor-controlled, and the average scan rate will be monitored during scanning and verified during data evaluation; however, the text does not state how scan rates will be monitored or how often data evaluation will be performed to ensure the project-required scan rates are met such that the MDCs of such scans are met and the data are of sufficient quantity and quality to meet the project objectives. Please revise the Work Plan to provide details about scan rate monitoring and verification.

34. Section 4.6.3.2, Survey Unit and Reference Background Area Alpha-Beta Scanning, Page 4-22: The text states that “The total surface area of remaining, accessible impacted surfaces to be scanned will be 100 percent in Class 1 SUs, 50 percent in Class 2 SUs, and up to 10 percent in Class 3 SUs.” Please explain how the percentage of Class 3 SUs to be scanned will be determined and/or specify a minimum percentage, along with a rationale for the specified value.

35. Section 5.5, Comparison to Background, Pages 5-7 to 5-8: The text states that “Sample and static measurement data shown to be NORM or anthropogenic background comply with the Parcel C ROD RAO, even if the results exceed the corresponding RG values.” As we commented on past Work Plans, for soil sampling results, if the Navy believes that a sample exceeding its RG and BTV from the 2020 Final Background Study Report represents background, the Navy should submit an analysis supporting its conclusion for EPA and State review. The agencies will evaluate the information on a case by case basis. EPA is not, at this time, agreeing that any results exceeding an RG or previously agreed to BTV represent background. The burden of proof will be on the Navy to demonstrate that results above an RG or BTV are not site related.

36. Section 7.5, Compliance with CERCLA Off-Site Rule, Page 7-9: The text states, “With Navy approval, Gilbane will request proof of Off-Site Rule approval from the off-site disposal facility before transferring any wastes to that facility.” We recommend that Gilbane or the Navy also confirm with EPA’s Region 9 Off-site Rule Coordinator that the disposal facility has current offsite rule approval before shipment of any wastes.

37. Section 8.4.2, Stockpile Control, Page 8-2: According to this section, “All stockpiles will be covered with plastic or tarps at the end of shift or when stockpile additions or removals are complete and will be monitored on a weekly basis.” Please revise Section 8.4.2 to ensure that monitoring occurs more frequently than weekly before, during, and after storms or high winds to ensure that the stockpile coverings are functioning as intended.

- 38. Section 8.5, Air Quality and Dust Control, Pages 8-2 to 8-4:** Please make any needed revisions to this section to reflect changes made to Appendix E (Dust Management and Air Monitoring Plan).
- 39. Section 8.6, Noise Prevention, Page 8-4:** The text states that Gilbane will endeavor to limit noise at the HPNS boundary to 70dBA. Please specify project working hours and whether project work may occur on Saturdays or Sundays.
- 40. Appendix A, Sampling and Analysis Plan, SAP Worksheet #11, Project Quality Objectives/Systematic Planning Process Statements, Page 42:** The text includes the statement that “If any Phase 2 TU does not meet the Amended Parcel C ROD RAO, then the Phase 2 TUs will be excavated.” This statement differs from the statement in Section 3.1 that “If any one Phase 2 TU does not meet the Parcel C ROD RAO, the TU will be excavated.” Please clarify and correct as needed.
- 41. Appendix A, Sampling and Analysis Plan, SAP Worksheet #14, Summary of Project Tasks, Section 14.2, Mobilization Activities, Page 51:** The Building Investigation subsection in Section 14.2 includes “Implementation of dust control methods and air monitoring, if warranted” as a possible activity. Please clarify when and how it will be determined if dust controls and air monitoring are needed.
- 42. Appendix A, Sampling and Analysis Plan, SAP Worksheet #15.11, Reference Limits and Evaluation Table, Page 76:** The proposed Project Screening Limit for chromium is the EPA RSL for Cr+3 rather than the much lower RSL for Cr+6 (120,000 for Cr+3 v. 230 for Cr+6). Please describe the rationale for assuming that any chromium measured in imported fill is Cr+3 and/or analyze a subset of samples for Cr+3 and/or Cr+6.
- 43. Appendix A, Sampling and Analysis Plan, SAP Worksheet #17, Sampling Design and Rationale, Table 174, Building-specific Remediation Goals from Parcel C Work Plan, Page 93:** A remediation goal for K-40, one of the ROCs for Building 241, is not provided, so it is unclear what would be used to evaluate and/or remediate K-40 contamination if any is found. Please provide a remediation goal for K-40 and discuss how it will be applied to the surveys and sampling that will be conducted in Building 241.
- 44. Appendix A, Sampling and Analysis Plan, Figure 16-1, Project Schedule:** The schedule does not describe the tasks associated with the investigation of the Former Sanitary Sewer and Storm Drain TUs. Please revise the schedule to designate the work associated with the trench units. We recommend that the figure also indicate and/or reflect the possibility that the Phase II TUs require excavation.
- 45. Appendix A, Sampling and Analysis Plan, Attachments 2 and 4:** Field and laboratory SOPs are described as proprietary information and were not included in the draft workplan provided to EPA. Please identify any changes to the Parcel C SOPs compared to those included in the draft Parcel B Work Plan.

- 46. Appendix E, Dust Management and Air Monitoring Plan (DMP), Section 1.0, Introduction, 3rd Paragraph, Page 1:** The discussion regarding nearby receptors and monitoring scale currently states: “The nearest residential receptors are located at The San Francisco Shipyard at 11 Innes Court, approximately 185 meters northwest of the Parcel C boundary. In addition, approximately 33 meters northwest of Parcel C, public receptors are present at a commercial kitchen and artist studios in the 100 block of Horne Avenue. The air quality monitoring is appropriate to assess potential impacts to the nearby residents and public receptors, in addition to on-site workers. The air monitoring stations will assess potential middle scale impacts to residents and public receptors within 500 meters of the site.” However, for the purpose of air monitoring representativeness, microscale is typically used for distances of 100 meters or less, and medium scale is used for distances of 100-500 meters. Also, in addition to the nearby SF Shipyard, commercial kitchen, and artist studios, there appear to be several nearby buildings on Parcel B that are in use, including 115/116, and 125, and those potential receptors should be included in this discussion and considered in the sampling design. Spatial scale is an important consideration in designing air monitoring programs to ensure that the impacts of air emissions to the public are assessed properly. Please update the Work Plan to describe the monitoring scale and make any needed revisions to identify and consider impacts to all potential receptors.
- 47. Appendix E, Dust Management and Air Monitoring Plan, Section 1.0, Introduction, Page 1:** The DMP does not include language regarding project signage and who to contact for questions or concerns regarding air quality. Please add language that states that: (1) a project sign will be installed near the site entrance or other appropriate location where it can be seen by the public, and (2) the sign will include project contact information for both the Navy and Gilbane personnel for reporting of dust or other air quality concerns.
- 48. Appendix E, Dust Management and Air Monitoring Plan, Section 2.2.10, Wind Speed and Air Monitoring and Response, Pages 7-8:** The Work Plan does not have specifications for the data quality and siting for the meteorological station. Also, the location of any potential windsocks on Parcel C are not shown on Figure 1. This section does indicate that the meteorological station will be at the site trailer in Parcel C, but the exact location is not provided on Figure 1. Note that wind speed and direction in the site trailer area may be influenced by topography and may not entirely correspond to the rest of Parcel C. Please add this information to the DMP and update Figure 1 accordingly.
- 49. Appendix E, Dust Management and Air Monitoring Plan, Section 3.0, Air Quality Monitoring Procedures, Last Paragraph, Pages 9-10:** The DMP states: “The upwind and downwind dust monitors will enable emissions from off site to be considered in the 50 µg/m³ average per 24-hour day action level comparison, when wind speeds are greater than 5 mph and wind direction is constant over the sampling period. There will be situations, like stagnant conditions or when the wind direction varies during the data collection interval, where consideration of upwind is not appropriate.” Please include decision criteria for site related concentration calculations, similar to what is being used at Parcel G, in a table or attachment to the DMP.

50. Appendix E, Dust Management and Air Monitoring Plan, Section 3.1, Air Quality Sampling and Real-Time Dust-Monitoring Locations, Page 10: This DMP section lacks information about how air quality sampling and real-time dust monitoring locations were selected. In addition, the DMP should specify how many locations will be in use at the same time, decision criteria to switch between locations, and upwind and downwind pairing.

51. Appendix E, Dust Management and Air Monitoring Plan, Section 3.1, Air Quality Sampling and Real-Time Dust-Monitoring Locations, Page 10: The Navy should include monitor siting best practices in the DMP, both in siting air monitoring stations and in siting individual monitors and samplers within each station. Distances from buildings and emissions sources not associated with Parcel C, like truck traffic or street sweeping for other activities taking place at the site, is recommended. Siting within individual stations to prevent interference from samplers or power sources is required. These best practices may include:

- i. Sites should be selected for long-term use when possible for data comparability purposes.
- ii. Sites should be selected away from buildings, topography, and other obstructions to the extent possible.
- iii. When samplers are sited together, a two-meter distance between radiation, asbestos, and high-volume samplers is required. Inlets for the radiation and asbestos samplers should be upwind from the high-volume samplers. The high-volume samplers pull a significant volume of air through filters and can potentially bias other samplers too close to their exhaust.
- iv. A 10 to 15-meter distance between diesel generators (if used for power source) from all samplers and real-time monitoring stations is required to prevent interference. Appropriate gauge extension cords for critical equipment must be utilized to maintain adequate voltage.
- v. A 15-meter distance from excavation or other dust sources is recommended for all samplers and real-time monitoring stations. All excavation near monitoring locations must be documented and reported with the corresponding analytical data. Proximity to high truck traffic routes and/or idling trucks should also be considered.

Please update this section of the DMP accordingly.

52. Appendix E, Dust Management and Air Monitoring Plan, Section 3.2.1, Total Suspended Particulates, Manganese, and Lead, Pages 11-12, and Appendix E, Dust Management and Air Monitoring Plan, Section 3.2.2 PM 10, Page 12: These sections of the DMP do not include information about how flowrate calculations will be performed. It is recommended that mass flow controlled high volume PM10 and TSP/metals samplers be used. If mass flow-controlled samplers are not used, flow should be calculated using the pre- and post-pressure drop across the filter to compensate for the effects of filter loading. Please reference commonly accepted SOPs for calculating flow rate. The types of samplers used and flow rate calculations must be specified in the DMP and associated SOPs.

- 53. Appendix E, Dust Management and Air Monitoring Plan, Section 3.2.4.2, Dust Monitoring for Off-Site Receptors, Paragraph 1, Pages 13-14:** This section includes the following statement: “Figure 1 shows the dust-monitoring locations specified by California Department of Toxic Substances Control (DTSC) (May 2019).” EPA believes that DTSC did not specify dust monitoring locations in Parcel C and this has been included in error. Please remove this sentence.
- 54. Appendix E, Dust Management and Air Monitoring Plan, Section 3.2.4.2, Dust Monitoring for Off-Site Receptors, Pages 13-14:** This section states that SidePak™ aerosol monitors will be used for real-time dust monitoring. EPA believes that these monitors are acceptable for the intended purpose. However, the Navy should note that this data may not be comparable to DustTrak II data collected elsewhere at the site. Mass measurement readings may differ under the same conditions. Also note that both the SidePak™ and DustTrak II samples are not accurate when PM_{2.5} concentrations are extremely high, including during wildfire smoke events.
- 55. Appendix E, Dust Management and Air Monitoring Plan, Section 3.2.6, Field Quality Control Procedures, Page 16:** This section lists key elements of the routine field QC program. Please add monthly or weekly flow rate verification using an external National Institute for Standards and Technology (NIST)-traceable flow meter, and add this verification to the existing row “Dust (measured as PM₁₀)” of Table 4 pg. 1, so that the Laboratory/Field Control Sample (Accuracy) reads: “Weekly flow rate check with external NIST traceable flow calibrator; 3 L/min tolerance \pm 5%.”
- 56. Appendix E, Dust Management and Air Monitoring Plan, Section 4.0, Data Review and Reporting, Page 18:** This section states, “The Navy will report dust-control activities, wind data, and PDR results to EPA and DTSC on a weekly basis. Air-sampling reports will be prepared as analytical results are received from the laboratory and electronically submitted biweekly (depending on the receipt of analytical data) to the Navy.” Please provide example reports as an attachment to the Work Plan so that EPA can evaluate whether they contain all necessary components.
- 57. Appendix E, Dust Management and Air Monitoring Plan, Figure 1, Potential Air Monitoring Locations:** Figure 1 shows five potential upwind and eight potential downwind monitoring locations; however, it is unclear how many upwind and downwind monitors will be in use at the same time and how upwind and downwind monitoring locations will be paired. In addition, Figure 1 does not show where real-time dust monitors will be located. Figure 1 also does not include the proposed location(s) for the RSY pads or trench units. Please clarify where real-time dust monitors will be located, clarify how upwind and downwind locations will be paired/utilized, and add potential RSY pad and trench unit locations to Figure 1. EPA proposes a meeting and possible site walk to discuss these issues in more detail and to come up with monitoring locations that represent the best possible upwind and downwind monitoring locations for work activities at Parcel C, potentially in combination with a meeting and site walk for Parcel B.

- 58. Appendix E, Dust Management and Air Monitoring Plan, Figure 2, Wind Rose, Parcel E:** Figure 2 shows a wind rose from San Francisco International Airport, but it is titled, “Wind Rose Parcel E.” Please update the figure name to describe “Parcel C,” and clarify that this wind rose is included to show that the predominant wind direction is from the west or northwest in the narrative of the DMP.
- 59. Appendix E, Dust Management and Air Monitoring Plan, Table 3, Air-Sampling and Dust-Monitoring Frequency and Sample Collection Methods, Page 1:** Please update the sampling method for the real-time dust monitoring from DustTrak II to SidePak™, consistent with the rest of the DMP.
- 60. Appendix E, Dust Management and Air Monitoring Plan, Table 5, Air-Sampling Unit Flow Checks and Controls, Page 1:** Please update this table to add flow rate verification using an external NIST-traceable flow meter at regular intervals or whenever units are moved.
- 61. Appendix E, Dust Management and Air Monitoring Plan, Attachment 2, Gilbane Standard Operating Procedures and Field Forms:** Gilbane Standard Operating Procedures and Field Forms are missing from the DMP. Please transmit them to EPA for review. EPA may have additional comments on the Standard Operating Procedures and Field Forms.

62. EDITORIAL COMMENTS/TYPOS

Sections 3.4.6 and 3.4.7: The text describes 18 samples placed using a square grid in a SU. The referenced figure (Figure 3-4) does not appear to match the text.

Section 3.6.5, Phase 1 Survey Unit Investigation, Page 3-23: The text states that “If gamma scan surveys indicate areas of potentially elevated activity ... a gamma scan survey will be performed.” Please clarify or correct.

Section 4.1, Step 6. The reference to Figure 4-10 appears to be in error.

Section 4.4.3. The text states that “The only Class 3 SU consists of the Building 203 roof.” Table 4-4 also shows class 3 SUs in building 253.

Section 4.4.3.4, Building 224: The text describes three Class 1 SUs; Table 4-4 lists two Class 1 SUs and one Class 2 SU.

Section 4.4.3.6. The number of SUs in the building 253 mezzanine does not appear to match the corresponding figure (Figure 4-8).

Section 4.4.3. Many of the references to figure numbers in Section 4.4.3 and the building-specific subsections appear incorrect.

Figure 4-3: We could not locate this figure.

Appendix A, Worksheets #3, #5, #6, #7. Please substitute Wayne Praskins for Lily Lee or Judy Huang as the USEPA point of contact. We note that the Waterboard contact also needs to be updated.

Appendix A, Worksheet #12. Footnote 4 appears to be missing from the table.

Appendix A, Worksheet #14, Table 14-1. Co-60 and Cs-137 are listed in the footnote as possible alpha emitters. Please revise as needed.

Appendix A, Worksheet #14.3, Soil Investigation. The text refers to 17 SUs associated with soil from buildings sites. Should be 20?

Appendix A, Worksheet #14.7, Data Verification. The text refers to Worksheets #35-36 and Worksheet #37. Should reference Worksheets #34-36?

Appendix A, Worksheet #14.8, Data Evaluation and Reporting. The reference to Figure 4-8 appears to be incorrect.

Appendix A, Worksheet #15.11: Please check the source of the sodium project screening limit. The table lists “EPA RSL for Sodium Salt” as the source but we are unable to locate the listed value in the current RSL table.

Appendices A, B, D. There are several places the text references Parcel B rather than Parcel C, including footnote 1 in Worksheet 15.1, Worksheet #17, Appendix B, and Appendix E.